



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>7</sup> :</b> <b>A23J 1/20, A23C 9/14</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 00/18251</b>  <b>(43) International Publication Date:</b> 6 April 2000 (06.04.00)
<b>(21) International Application Number:</b> PCT/FI99/00800 <b>(22) International Filing Date:</b> 29 September 1999 (29.09.99)  <b>(30) Priority Data:</b> 982114 30 September 1998 (30.09.98) FI  <b>(71) Applicant (for all designated States except US):</b> VALIO LTD [FI/FI]; Meijeritie 4, FIN-00370 Helsinki (FI).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> VAARALA, Outi [FI/FI]; Fredrikinkatu 75 A 5, FIN-00100 Helsinki (FI). TOSSAVAINEN, Olli [FI/FI]; Tornihaukantie 4 as 21, FIN-02620 Espoo (FI). KEROJOKI, Outi [FI/FI]; Isoni- itynkatu 7 F 25, FIN-00520 Helsinki (FI). SALMINEN, Kari [FI/FI]; Mannerheimintie 60 A 8, FIN-00260 Helsinki (FI). ERIKSSON, Marika [FI/FI]; Orapihlajantie 3 D 43, FIN-00320 Helsinki (FI).  <b>(74) Agent:</b> KOLSTER OY AB; Iso Roobertinkatu 23, P.O. Box 148, FIN-00121 Helsinki (FI).		<b>(81) Designated States:</b> AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> METHOD OF PROCESSING A PROTEINOUS MATERIAL, A PRODUCT SO OBTAINED, AND USE THEREOF  <b>(57) Abstract</b>  <p>The invention relates to a method of removing bovine insulin from a liquid fat-free proteinous material originating from cow's milk, wherein the liquid fat-free proteinous material originating from cow's milk, the material having a pH of 2 to 8, at a temperature below 65 °C, is contacted with an adsorption resin, whereby the weight ratio of the proteinous material to be treated to the adsorption resin is at most 100:1, optionally combining with said resin treatment at least one ultra and dia-filtration treatment of the proteinous material, and, if necessary, the liquid material so obtained is concentrated into a protein concentrate and optionally dried to powder. The invention further relates to a substantially bovine insulin-free proteinous material so obtained, and to its use as the protein part or raw material in the preparation of substantially bovine insulin-free infant formulae or other special nutritive preparations or consumption milk, other milk drinks or other milk preparations, or as a raw material therein.</p>		